



CONCRETE MEDIAN BARRIER FIELD SECTION 617

617.1 SCOPE. To establish procedures for inspection and reporting of concrete median barriers. Reinforcing steel, concrete curing material, mortar for grout and portland cement concrete shall be inspected in accordance with the corresponding sections of this Manual. Fabrication of cast-in-place median barriers is inspected and reported by the Construction Division.

617.2 APPARATUS.

- (a) Micrometer capable of measuring to 0.0001 in. [0.00254 mm] and accurate within at least 0.001 in. [0.0254 mm.]
- (b) Rule with suitable graduations to accurately measure the material to be inspected.
- (c) Magnetic gauge, reading range of 0-40 mils [0-1000 μ m].
- (d) OK - MoDOT stamp.
- (e) Weather resistant marking materials

617.3 PROCEDURE. Acceptance of precast concrete median barriers is to be based on the inspection of materials being incorporated into the sections, compressive tests on cured concrete cylinders, and inspection of the finished section, including amount and placement of reinforcement.

617.3.1 Materials. The inspector shall insure that only inspected and approved materials are used in the fabrication of concrete median barriers. The fabricator shall submit a proposed portland cement concrete mixture for approval. The district Operations Engineer shall insure that the proposed mix meets the designated requirements.

617.3.2 Forms. The inspector shall insure that forms and form work comply with the applicable requirements of Specification Sec 617 and 703, and Standard Drawing 617.

617.3.3 Placement of Reinforcement. The inspector shall insure that the placing and tying of reinforcing bars conform to the applicable requirements of Specification Sec 706, Standard Drawing 617, and that all reinforcing steel are properly placed and are clear and free. All reinforcing steel shall be checked to insure that they are free from form oil or other material that might serve as a bond breaker.

617.3.4 Placing and Consolidating Concrete. The inspector shall insure that the placing, consolidating, and finishing of concrete is in accordance with the applicable provisions of Specification Sec 703.

617.3.5 Concrete Testing. During the placement of the portland cement concrete, tests shall be performed to insure that the requirements of Specification Sec 617 are met. Portland cement concrete shall be inspected and reported in accordance with [Field Sec 501](#) of this Manual and Sec 500 of the Construction Manual. Tests for determining consistency and air entrainment shall be performed. At least 2 sets of specimens for compressive strength for each pour shall be prepared in accordance with Sec 501 of the Construction Manual and cured in the same manner as the units.



617.3.6 Curing. The inspector shall observe the curing operation to verify that the requirements of Specification Sec 617 and 1026 are being met. Type 1D liquid membrane-forming compound may be used in accordance with Specification Sec 1055.2. The Type 1D pigmented cure shall be applied at the same rate as for paving. Type 2, white pigmented curing compound, is not allowed.

617.3.7 Form Removal. Precast concrete members shall be cured a minimum of 12 hours after pouring before forms can be removed. The inspector at the fabricating plant is responsible for making and testing standard compressive specimens to determine when forms may be removed and curing discontinued in accordance with Specification 617. Compressive tests should be performed at the fabricating plant or an approved commercial testing laboratory. At the discretion of the district Operations Engineer, the specimens may be tested using District equipment. If questionable results are being obtained, the compressive specimens shall be submitted to the Laboratory for testing. At least one set of regular 28 day cylinders should be submitted to the Laboratory for each project to check the portland cement concrete mix design with a minimum of one set per month of operation of precast plant or as often deemed necessary. Form C701 is to be used as an identification sheet with the distribution and title modified as required.

617.3.8 Marking. The inspector shall insure that each precast unit is identified with the manufacturer, location of manufacturer and year of manufacture clearly and permanently marked by indentation, plates or other suitable methods. The permanent markings should be identifiable after installation. New barriers are also required to be marked with the day and month of manufacture for yard tracking. The day and month markings may be by permanent marker that will wear off over time and will not be required when the barrier is raised. These markings shall be located as shown on the plans. If the location of the markings is not shown on the plans, markings shall be located in such a manner that they will not be obvious or objectionable to the traveling public after the unit has been placed in its final position. The barriers shall not be accepted or shipped new from the yard if the year, month and day of manufacture are not identifiable. The barriers shall not be accepted or used on the project if the manufacturer, manufacturer location, and year of manufacture are not identifiable.

617.3.9 Inspection of Completed Units. The finished units are to be examined for conformance to dimensions, workmanship, and marking in accordance with Specification Sec 617 and Standard Drawing 617.00. Accepted sections are to be stamped with an "OK - MoDOT" by the inspector. Minor patching will be permitted to obtain the specified texture as long as the defects to be patched do not harm the structural integrity of the unit.

617.3.10 Records. The plant inspector shall maintain a complete file of all data pertaining to the manufacturer of the concrete units, either at the manufacturing plant or in the District Office. Complete and accurate records of each manufacturing operation should be kept in a field book. All pertinent data which in any way affects or influences the construction procedures or completed members shall also be recorded in the field book. Data shall be entered in the field book as soon as it is known. Field notes shall not be copied but shall be kept exactly as they are originally recorded.

617.4 REPORT.

617.4.1 Materials shall be reported as shown in the applicable sections of this Manual. Appropriate remarks, as described in [General Sec 7.2](#) of this Manual, are to be included in the report to clarify conditions of acceptance or rejection.

617.4.2 When precast median barriers are delivered to a given project, the units shall be reported through SiteManager and shall contain one of the following statements as appropriate:

"These median barriers have been surface sealed."

"These median barriers have not been surface sealed."



617.4.3 Distribution of the reports is to be shown in the corresponding sections of this Manual except that the copies normally forwarded to the Resident Engineer shall be furnished to the Inspector at the precast manufacturing plant. The reports shall be marked "General" and the name of the precast concrete manufacturer must be shown. The material is to be shown for use in "Precast Concrete Units." The plant inspector located at the concrete proportioning plant shall furnish a plant inspector's daily report through SiteManager for each day pour identifying the units manufactured from that pour. The name of the manufacturer or setup must be shown. The original copy of this report shall be forwarded to the State Materials Engineer. The duplicate copy shall be furnished to the district Operations Engineer supervising operations at the manufacturing plant. The triplicate copy shall be retained by the plant inspector for the plant records.

617.4.4 When precast concrete units are delivered to a given project, the units shall be reported through SiteManager with distribution per Class A in General Sec 7.7.

